

AMENDMENTS TO THE CLAIMS

Please amend the application as follows:

Claims 1-73 (Cancelled)

74. (New) An ultra wideband (UWB) apparatus, comprising:
an UWB radar that uses UWB radar signals to detect an object; and
an impulse radio that modulates UWB signals to communicate information, wherein the impulse radio uses UWB signals to perform range finding relative to another impulse radio for determining the location of the object.
75. (New) The UWB apparatus of claim 74, wherein said UWB radar transmits the UWB radar signals.
76. (New) The UWB apparatus of claim 74, wherein said UWB radar receives signal returns of UWB radar signals reflecting off said object.
77. (New) The UWB apparatus of claim 76, wherein said signal returns correspond to at least one of forward scattering signal returns and back scattering signal returns.
78. (New) The UWB apparatus of claim 77, further comprising:
a processor that processes said at least one of said back scattering returns and said forward scattering returns to determine the movement of said object.
79. (New) The UWB apparatus of claim 78, wherein said processor triggers a condition when said object penetrates a boundary.
80. (New) The UWB apparatus of claim 74, wherein said UWB radar and said impulse radio are combined into a single unit that performs integrated UWB radar, communications,

and range finding functions.

81. (New) The UWB apparatus of claim 74, wherein said location is used to determine the position of said object.

82. (New) An UWB apparatus, comprising:
an UWB radar that transmits UWB radar signals and receives back scattering signal returns of said UWB radar signals reflecting off an object, and
an impulse radio that modulates UWB signals to communicate information, wherein the impulse radio uses UWB signals to perform range finding relative to another impulse radio for determining the location of the object.

83. (New) The UWB apparatus of claim 82, further comprising:
a processor that processes said back scattering signal returns to determine the movement of said object.

84. (New) The UWB apparatus of claims 83, wherein said processor triggers a condition when said object penetrates a boundary.

85. (New) The UWB apparatus of claim 82, wherein said UWB radar receives forward scattering signal returns of UWB radar signals that are transmitted by another UWB radar.

86. (New) The UWB apparatus of claim 85, further comprising:
a processor that processes at least one of said back scattering signal returns and said forward scattering signal returns to determine the movement of said object.

87. (New) The UWB apparatus of claims 86, wherein said processor triggers a condition when said object penetrates a boundary.

88. (New) The UWB apparatus of claim 82, wherein said UWB radar and said impulse radio are combined into a single unit that performs integrated UWB radar, communications, and range finding functions.
89. (New) The UWB apparatus of claim 82, wherein said location is used to determine the position of said object.
90. (New) An UWB apparatus, comprising:
a UWB radar that receives forward scattering signal returns of UWB radar signals reflecting off an object; and
an impulse radio that modulates UWB signals to communicate information, wherein the impulse radio uses UWB signals to perform range finding relative to another impulse radio for determining the location of the object.
91. (New) The UWB apparatus of claim 90, further comprising:
a processor that processes said forward scattering signal returns to determine the movement of said object.
92. (New) The UWB apparatus of claims 91, wherein said processor triggers a condition when said object penetrates a boundary.
93. (New) The UWB apparatus of claim 90, wherein said UWB radar also receives back scattering signal returns reflecting off of the object.
94. (New) The UWB apparatus of claim 93, further comprising:
a processor that processes at least one of said back scattering signal returns and said forward scattering signal returns to determine the movement of said object..
95. (New) The UWB apparatus of claims 94, wherein said processor triggers a condition

when said object penetrates a boundary.

96. (New) The UWB apparatus of claim 90, wherein said UWB radar and said impulse radio are combined into a single unit that performs integrated UWB radar, communications, and range finding functions.

97. (New) The UWB apparatus of claim 90, wherein said location is used to determine the position of said object.

98. (New) An UWB apparatus, comprising:
a first UWB radar that transmits first UWB radar signals,
a second UWB radar that receives forward scattering signal returns of said first UWB radar signals reflecting off an object; and
a first impulse radio and a second impulse radio that communicates with said first impulse radio using UWB signals, wherein said first impulse radio performs range finding to determine a range relative to said second impulse radio used for determining the location of the object.

99. (New) The UWB apparatus of claim 98, further comprising:
a processor that processes said forward scattering signal returns to determine the movement of said object.

100. (New) The UWB apparatus of claim 99 wherein said processor triggers a condition when said object penetrates a boundary.

101. (New) The UWB apparatus of claim 98, wherein said second UWB radar transmits second UWB radar signals and receives back scattering signal returns of said second UWB radar signals reflecting off the object.

102. (New) The UWB apparatus of claim 100, further comprising:
a processor that processes at least one of said back scattering signal returns and said forward scattering signal returns to determine the movement of the object.
103. (New) The UWB apparatus of claims 102, wherein said processor triggers a condition when said object penetrates a boundary.
104. (New) The UWB apparatus of claim 98, wherein one of said first UWB radar and said second UWB radar is combined into a single unit with one of said first impulse radio and said second impulse radio to perform integrated UWB radar, communications, and range finding functions.
105. (New) The UWB apparatus of claim 98, wherein said location is used to determine the position of said object.
106. (New) A method of UWB signaling, comprising:
transmitting UWB radar signals;
receiving signal returns of said UWB radar signals reflecting off an object;
communicating information from a first impulse radio to a second impulse radio using UWB signals; and
performing range finding to determine a range between said first impulse radio and said second impulse radio used for determining the location of the object,
wherein said at least one of said transmitting and said receiving are performed by said first impulse radio.
107. (New) The method of claim 106, wherein said signal returns correspond to at least one of back scattering signal returns and forward scattering signal returns.
108. (New) The method of claim 106, further comprising:

processing at least one of said back scattering returns and said forward scattering returns to determine the movement of said object.

109. (New) The method of claims 106, further comprising:
triggering a condition when said object penetrates a boundary

110. (New) The method of claim 106, wherein said location is used to determine the position of said object.

111. (New) A method of UWB signaling, comprising:
receiving at an impulse radio at least one of back scattering signal returns and forward scattering signal returns of transmitted UWB radar signals that reflect off an object;
communicating information from said impulse radio to another impulse radio using UWB signals; and
performing range finding to determine a range between said impulse radio relative to said another impulse radio used for determining the location of the object.

112. (New) The method of claim 111, further comprising:
processing said at least one of back scattering signal returns and forward scattering signal returns to determine the movement of said object.

113. (New) The method of claims 112, further comprising:
triggering a condition when said object penetrates a boundary

114. (New) The method of claim 111, wherein said location is used to determine the position of said object.

115. (New) A method of UWB signaling, comprising:
transmitting at an impulse radio UWB radar signals that reflect off an object;

communicating information from said impulse radio to another impulse radio using UWB signals; and

performing range finding to determine a range between said impulse radio relative to said another impulse radio used for determining the location of the object.

116. (New) The method of claim 115, further comprising:
receiving signal returns of said transmitted UWB radar signals.

117. (New) The method of claim 115, wherein said signal returns comprise at least one of back scattering signal returns and forward scattering signal returns.

118. (New) The method of claim 115, further comprising:
triggering a condition when said object penetrates a boundary.

119. (New) The method of claim 115, wherein said location is used to determine the position of said object.